ISA Digital I/O Board

DIO-144/96/48/24

144/96/48/24-bit OPTO-22 compatible DIO board

DIO-144

Features

- 144/96/48/24 digital TTL/DTL I/O channels
- All I/O lines are buffered on the board
- Emulate 6/4/2/1 industry standard 8255 PPI Mode 0
- Direct interface with OPTO-22 compatible I/O modules
- High output driving capability
- Programmable interrupt source
- On-board 8254 timer/counter chip (DIO-48)
- Interrupt source: timer, event, direct trigger (DIO-48)

Functional Description

The DIO-144/96/48/24 are high density parallel digital I/O Board with 144/96/48/24 bi-direction I/O channels. The header connectors are fully compatible with industry OPTO-22 standard. The DIO-144/96/48/24 emulate mode 0 of the industry standard 8255 programmable peripheral interface (PPI) chips. Each PPI offers three 8-bit ports, Port A, Port B and Port C. The Port C is divided into 2 nibble-wide (4-bit) ports. All groups are configured as inputs upon power-up or reset.

The DIO-48 has one 8254 Timer/Counter chip, one 16-bit counter accept event signal (P2C0) and it will generate trigger signal of interrupt. The other 32-bit counter is used to generate pacer time trigger of interrupt. The clock source is 32.768KHz, 2MHz, 4MHz or 8MHz.

Applications

- Test automation
- Digital I/O control
- Alarm monitoring
- Factory Automation
- Product Test

Specifications

Logic inputs and outputs

- Input logic high voltage: 2.0V min / 5.0V max
- Input logic low voltage: -0.5V min / 0.8V max
- Input load current: -0.45 mA min / +70 μ A
- Output sink current: +24 mA max
- Output source current: -15 mA
- All outputs and inputs are TTL compatible
- Programmable interrupt source:
  P2C0, P5C0, P8C0, P11C0, P14C0, P17C0 (DIO-144)
  P2C0, P5C0, P8C0, P11C0 (DIO-96)
  P2C3, P2C7, P5C3, P5C7 (DIO-48)
  P2C0 (DIO-24)

General Specifications

- I/O connector: six 50-pin ribbon male (DIO-144)
  four 50-pin ribbon male (DIO-96)
  two 50-pin ribbon male (DIO-48)
  one 50-pin ribbon male (DIO-24)
- Power requirements:

Device	DIO-144	DIO-96	DIO-48	DIO-24
+5V	2680 mA	1860 mA	880 mA	580 mA

- Operating temperature: 0 ~ 60°C
- Operating humidity: 0 ~ 90% non-condensing
- Storage temperature: -20 ~ 80°C
- Dimensions:
  182 mm x 110 mm (DIO-144, DIO-96, DIO-48)
  107 mm x 106 mm (DIO-24)

DIO-144/96/48/24

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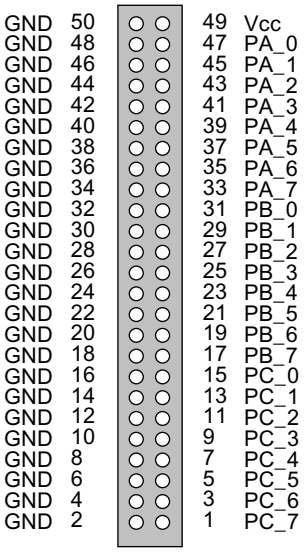
DIO-96

DIO-48

DIO-24

Pin Assignment



Ordering Information

Standard

DIO-24: 24-bit OPTO-22 DIO board
DIO-48: 48-bit OPTO-22 DIO board
DIO-96: 96-bit OPTO-22 DIO board
DIO-144: 144-bit OPTO-22 DIO board

Optional

DB-24P: 24-channel OPTO-isolated input terminal board
DB-24R: 24-channel relay terminal board
DB-24PR: 24-channel power relay terminal board
DB-24C: 24-channel open-collector output board
DB-24OD: 24-channel open-drain output board
DB-24POR: 24-channel PhotoMos relay board
DB-24SSR: 24-channel solid state relay board
DB-16P8R: 16-channel OPTO-isolated digital input & 8-channel relay output board
DN-50: DIN-rail mounting terminal board
ADP-37: 50-pin OPTO-22 ports to DB-37 adaptor
ADP-50: 50-pin extender